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EXAMINER

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 09/990,601
Filing Date: November 21, 2001
Appellant(s): KRECH ET AL.

MAILED
SEP 07 2007
GROUP 1700

MAILED
SEP 11 2007
GROUP 1700

Eloise J. Maki
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed May 31, 2007 appealing from the Office action mailed March 7, 2006.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is substantially correct. The changes are as follows: the 35 U.S.C. 112, first paragraph, rejection of claim 64 has been withdrawn due to Appellant's arguments on pages 6-7 of the Brief. The objection to the specification that Appellant addresses on pages 6-7 of the Brief is drawn to the same issue as the 35 U.S.C. 112, first paragraph, rejection of claim 64, so the objection has also been withdrawn.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

The following is a listing of the evidence (e.g., patents, publications, Official Notice, and admitted prior art) relied upon in the rejection of claims under appeal.

US Pat. No. 5,744,504	OISHI et al.	4-1998
US Pat. No. 6,344,508	ENDO et al.	2-2002
US Pat. No. 5,709,948	PEREZ et al.	1-1998
US Pat. No. 3,268,636	ANGELL, Jr.	7-1963
US Pat. No. 6,148,291	RADICAN	11-2000
US Pat. No. 4,655,360	JUHANSON	4-1987
US Pat. No. 4,604,441	UEEDA et al.	8-1986
US Pat. No. 3,979,354	DYCKMAN, et al.	9-1976

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

Claims 30, 32, 34-37, 47, 50-53, 55, and 57-61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oishi et al. in view of Endo et al.

In regard to claim 30, Oishi et al. teach a plastic article (i.e. a part or component of transportation equipment or a container, col. 69, lines 1-3) comprising a composition comprising a blend of a polyolefin resin and a thermosetting resin (col. 29, lines 3-6 and 13-14) and a diguanamine flame retardant that is a non-halogenated flame retardant where all of the resins are free of halogen (col. 19, lines 1-5 and 10-11) and where all of the flame retardant(s) (i.e. the diguanamine flame retardant) are selected only from the group consisting of non-halogenated

Art Unit: 1772

flame retardants as claimed. Oishi et al. teach that the polyolefin resin is a fully prepolymerized uncrosslinked hydrocarbon polyolefin resin (e.g. styrene, polyethylene, polypropylene, polybutylene, poly-3-methylbutene, col. 29, lines 7-9 and 13-15), and the thermosetting resin of Oishi et al. is necessarily curable since it is a thermosetting resin (col. 29, lines 3-6).

Oishi et al. fail to explicitly teach that the plastic article (i.e. the part or component of transportation equipment or container) is a pallet and to explicitly teach the claimed relative amounts by weight of the polyolefin and thermosetting resins.

Endo et al., however, teach a resin composition comprising a flame retardant (col. 37, lines 61-64) that is formed into a container or a pallet (col. 7, lines 38-39). Therefore, since a pallet is both a part or component of transportation equipment and a container (Applicant characterizes a pallet as a container at line 14 of page 1 of Applicant's specification), one of ordinary skill in the art would have recognized to have formed the part or component of transportation equipment or container of Oishi et al. in the form of a pallet since it is notoriously well known to form flame retardant containing plastic pallets as taught by Endo et al.

Furthermore, in regard to the claimed relative amounts by weight of the polyolefin and thermosetting resins, since Oishi et al. teach that the polyolefin resin and the thermosetting resin are blended (col. 29, lines 3-6), it would have been obvious to one of ordinary skill in the art at the time the invention was made to have varied the relative amounts of the polyolefin and thermosetting resins in the blend depending on the particular desired end result in the absence of unexpected results. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have formed the part or component of transportation equipment or container of

Art Unit: 1772

Oishi et al. in the form of a pallet since it is notoriously well known to form flame retardant containing plastic pallets as taught by Endo et al.

In regard to claim 32, Oishi et al. teach that the thermosetting resin is an epoxy resin that is an epoxy resin as claimed (col. 29, lines 56-57 and 61-62).

In regard to claim 34, Oishi et al. teach that the container comprises glass beads as a filler (col. 32, lines 51-52 and col. 32, line 67-col. 33, line 2). In regard to claim 35, Oishi et al. teach that the diguanamines taught by Oishi et al. have excellent antifouling property (col. 3, lines 43-45); therefore, the diguanamines taught by Oishi et al. are antifouling agents, and therefore antimicrobial additives, as antifouling agents are characterized as antimicrobial additives in claim 61. In regard to claim 36, Oishi et al. teach that the flame retardant is a compound containing phosphorus-nitrogen bonds, since Oishi et al. teach that phosphorus-containing acids neutralized with bases such as ammonia or an amine, or ammonium polyphosphates, used in combination with diguanamine synergistically improves the flame-retarding results of the composition (col. 23, lines 37-43 and col. 24, lines 2-12 and 23); phosphorus-containing acids neutralized with bases such as ammonia or an amine, or ammonium polyphosphates contain phosphorus-nitrogen bonds. In regard to claim 37, Oishi et al. teach that the flame retardant is present in a range of 3-50 wt.% (col. 23, lines 28-30), a range that overlaps with the claimed range of "more than zero and up to and including 25 parts by weight". In regard to claim 47, Oishi et al. teach that the container comprises a filler (col. 32, lines 51-52 and 67).

In regard to claim 50, Oishi et al. teach that the prepolymerized uncrosslinked hydrocarbon polyolefin resin is homopolymeric (e.g. styrene, polyethylene, polypropylene, polybutylene, poly-3-methylbutene, col. 29, lines 7-9 and 13-15). In regard to claim 51, Oishi et

Art Unit: 1772

al. teach that the filler is incorporated as needed to an extent (i.e. in an amount) that does not impair the advantageous effects of the invention (col. 32, lines 51-54), an amount that overlaps with the claimed range of “more than 0 to 70 parts by weight”. In regard to claims 52 and 53, Oishi et al. teach that the thermosetting resin is an epoxy resin (col. 29, lines 56-57 and 61-62). In regard to claim 55, Oishi et al. teach that the composition comprises a curing accelerator (a thermal curing agent as claimed, col. 14, lines 63-66).

In regard to claim 57, Oishi et al. teach that the composition comprises a curing accelerator (a thermal curing agent as claimed, col. 14, lines 63-66) and that the thermal curing agent is an imidazole (col. 14, lines 64-65). In regard to claim 58, Oishi et al. teach that the composition is cured (col. 14, line 62-col. 15, line 2). In regard to claim 59, Applicant defines the term “semi-interpenetrating polymer network” as “polymer networks of two or more polymers wherein at least one polymer is crosslinked and at least one polymer is uncrosslinked” at the top of page 6 of the specification; the blend of a polyolefin resin and a thermosetting resin taught by Oishi et al. is a semi-interpenetrating polymer network since the polyolefin resin is uncrosslinked and the thermosetting resin, by definition, is crosslinked.

In regard to claim 60, Oishi et al. teach that the antimicrobial additive (the diguanamine) is integrally associated with the container since it is a component of the composition of the material that the container is formed from and that the diguanamine is substantially insoluble in water when the n value of the ammonium polyphosphate taught by Oishi et al. is a substantially large value (col. 24, line 16-20). In regard to claim 61, Oishi et al. teach that the antimicrobial additive (the diguanamine) is an antifouling agent (col. 3, lines 43-45).

Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Oishi et al. in view of Endo et al. and in further view of Perez et al. and in further view of Angell, Jr.

Oishi et al. and Endo et al. teach the pallet as discussed above. Oishi et al. and Endo et al. fail to explicitly teach that the pallet comprises structural foam comprising an integral skin and a cellular core. Perez et al., however, disclose a polymer network that is applied to a storage vessel (col. 3, lines 24-25) comprising a thermally cured epoxy resin and a fully prepolymerized hydrocarbon polyolefin (col. 3, lines 8-12). Perez et al. disclose that the composition is a foam (any foam would be considered to be "structural") (col. 23, lines 58-59). Furthermore, Angell, Jr. discloses a container formed of a foamable polymeric material having a wall having a dense surface zone (also referred to by Angell, Jr. as a shell) and a cellular interior that has a greater flexural strength and stiffness than a wall of the same thickness that is uniformly solid (col. 2, lines 8-22 and 42-71). The shell disclosed by Angell, Jr. is structurally equivalent to the integral skin as claimed by Applicant. Therefore, one of ordinary skill in the art would have recognized to have used the polymeric foam composition of Perez et al. that comprises a thermally cured epoxy resin and a fully prepolymerized hydrocarbon polyolefin as a component of the pallet of Oishi et al. and Endo et al. since the polymeric foam composition of Perez et al. is applied to a storage vessel as taught by Perez et al. and to have formed the pallet such that the foam comprises an integral skin and a cellular core in order to maximize the flexural strength and stiffness of the pallet as taught by Angell, Jr.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the polymeric foam composition of Perez et al. that comprises a thermally cured epoxy resin and a fully prepolymerized hydrocarbon polyolefin as a component

Art Unit: 1772

of the pallet of Oishi et al. and Endo et al. since the polymeric foam composition of Perez et al. is applied to a storage vessel as taught by Perez et al. and to have formed the pallet such that the foam comprises an integral skin and a cellular core in order to maximize the flexural strength and stiffness of the pallet as taught by Angell, Jr.

Claim 46 is rejected under 35 U.S.C. 103(a) as being unpatentable over Oishi et al. in view of Endo et al. and in further view of Radican.

Oishi et al. and Endo et al. teach the pallet as discussed above. Oishi et al. and Endo et al. fail to teach that the pallet further comprises at least one radio frequency identification (RFID) tag. Radican, however, teaches the use of RFID tags to enable the rapid acquisition and updating of container location and status (col. 13, lines 19-22). Therefore, one of ordinary skill in the art would have recognized to have provided RFID tags to the pallet of Oishi et al. and Endo et al. in order to enable the rapid acquisition and updating of container location and status as taught by Radican.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided RFID tags to the pallet of Oishi et al. and Endo et al. in order to enable the rapid acquisition and updating of container location and status as taught by Radican.

Claims 48, 64 and 65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oishi et al. in view of Endo et al. and in further view of Juhanson.

In regard to claim 48, Oishi et al. and Endo et al. teach the pallet as discussed above. Oishi et al. and Endo et al. fail to teach that the pallet further comprises a friction material on at least one surface of the pallet. Juhanson, however, disclose a container having a high friction pad attached to the bottom of the container to provide a non-skid surface to the bottom of the

Art Unit: 1772

container (col. 2, lines 39-45). Therefore, one of ordinary skill in the art would have recognized to have attached the high friction pad of Juhanson to the bottom of the pallet of Oishi et al. and Endo et al. in order to provide a non-skid surface to the bottom of the container (i.e. pallet) as taught by Juhanson.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have attached the high friction pad of Juhanson to the bottom of the pallet of Oishi et al. and Endo et al. in order to provide a non-skid surface to the bottom of the container (i.e. pallet) as taught by Juhanson.

In regard to claim 64, Oishi et al. teach a plastic article (i.e. a part or component of transportation equipment or a container, col. 69, lines 1-3) comprising a composition comprising a blend of a polyolefin resin and a thermosetting resin (col. 29, lines 3-6 and 13-14) and a diguanamine flame retardant that is a non-halogenated flame retardant where all of the resins are free of halogen (col. 19, lines 1-5 and 10-11) and where all of the flame retardant(s) (i.e. the diguanamine flame retardant) are selected only from the group consisting of non-halogenated flame retardants as claimed. Oishi et al. teach that the thermosetting resin is an epoxy resin (col. 29, lines 56-57 and 61-62). Oishi et al. teach that the polyolefin resin is a fully prepolymerized uncrosslinked hydrocarbon polyolefin resin (e.g. styrene, polyethylene, polypropylene, polybutylene, poly-3-methylbutene, col. 29, lines 7-9 and 13-15), and the epoxy resin of Oishi et al. is necessarily curable since it is a thermosetting resin (col. 29, lines 3-6). Oishi et al. teach that the article is molded (col. 68, line 52-col. 69, line 7).

Oishi et al. fail to explicitly teach that the plastic article (i.e. the part or component of transportation equipment or container) is a pallet, to explicitly teach the claimed relative amounts

by weight of the polyolefin and epoxy resins and to teach that the pallet further comprises in-mold applied friction material laminated adhesive-free to at least one surface of the pallet.

Endo et al., however, teach a resin composition comprising a flame retardant (col. 37, lines 61-64) that is formed into a container or a pallet (col. 7, lines 38-39). Therefore, since a pallet is both a part or component of transportation equipment and a container (Applicant characterizes a pallet as a container at line 14 of page 1 of Applicant's specification), one of ordinary skill in the art would have recognized to have formed the part or component of transportation equipment or container of Oishi et al. in the form of a pallet since it is notoriously well known to form flame retardant containing plastic pallets as taught by Endo et al.

Juhanson, furthermore, disclose a container having a high friction pad attached to the bottom of the container to provide a non-skid surface to the bottom of the container (col. 2, lines 39-45). The recitation "in-mold applied" is a method limitation that has not been given patentable weight since the method of forming the pallet is not germane to the issue of patentability of the pallet itself. Therefore, one of ordinary skill in the art would have recognized to have laminated the high friction pad of Juhanson to the bottom of the pallet of Oishi et al. and Endo et al. in order to provide a non-skid surface to the bottom of the container (i.e. pallet) as taught by Juhanson.

Furthermore, in regard to the claimed relative amounts by weight of the polyolefin and epoxy resins, since Oishi et al. teach that the polyolefin resin and the thermosetting resin are blended (col. 29, lines 3-6), it would have been obvious to one of ordinary skill in the art at the time the invention was made to have varied the relative amounts of the polyolefin and epoxy

Art Unit: 1772

resins in the blend depending on the particular desired end result in the absence of unexpected results. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have formed the part or component of transportation equipment or container of Oishi et al. in the form of a pallet since it is notoriously well known to form flame retardant containing plastic pallets as taught by Endo et al. and to have laminated the high friction pad of Juhanson to the bottom of the pallet of Oishi et al. and Endo et al. in order to provide a non-skid surface to the bottom of the container (i.e. pallet) as taught by Juhanson.

In regard to claim 65, Oishi et al., Endo et al. and Juhanson teach the pallet as discussed above in regard to claim 64. Juhanson teach that the container has molded members (depressions) and that the molded members comprise in-mold applied friction material (high friction pad) on one surface of the molded members (col. 2, lines 42-45). Therefore, one of ordinary skill in the art would have recognized to have formed depressions in the bottom of the pallet taught by Oishi et al. and Endo et al. and to have attached the high friction pad of Juhanson to the bottom of the pallet, including the depressions, taught by Oishi et al. and Endo et al. in order to provide a non-skid surface to the bottom of the container (i.e. pallet) as taught by Juhanson.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have formed depressions in the bottom of the pallet taught by Oishi et al. and Endo et al. and to have attached the high friction pad of Juhanson to the bottom of the pallet, including the depressions, taught by Oishi et al. and Endo et al. in order to provide a non-skid surface to the bottom of the container (i.e. pallet) as taught by Juhanson.

Claim 49 is rejected under 35 U.S.C. 103(a) as being unpatentable over Oishi et al. in view of Endo et al. and in further view of Radican and in further view of Juhanson.

Oishi et al. and Endo et al. teach the pallet as discussed above in regard to claim 30. Oishi et al. teach that the diguanamines taught by Oishi et al. have excellent antifouling property (col. 3, lines 43-45); therefore, the diguanamines taught by Oishi et al. are antifouling agents, and therefore antimicrobial additives, as antifouling agents are characterized as antimicrobial additives in claim 61.

Oishi et al. and Endo et al. fail to teach that the pallet further comprises at least one radio frequency identification (RFID) tag and that the pallet further comprises a friction material on at least one surface of the pallet.

Radican, however, teaches the use of RFID tags to enable the rapid acquisition and updating of container location and status (col. 13, lines 19-22). Therefore, one of ordinary skill in the art would have recognized to have provided RFID tags to the pallet of Oishi et al. and Endo et al. in order to enable the rapid acquisition and updating of container location and status as taught by Radican.

Juhanson, furthermore, disclose a container having a high friction pad attached to the bottom of the container to provide a non-skid surface to the bottom of the container (col. 2, lines 39-45). Therefore, one of ordinary skill in the art would have recognized to have attached the high friction pad of Juhanson to the bottom of the pallet of Oishi et al. and Endo et al. in order to provide a non-skid surface to the bottom of the container (i.e. pallet) as taught by Juhanson.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided RFID tags to the pallet of Oishi et al. and Endo et al. in order to

Art Unit: 1772

enable the rapid acquisition and updating of container location and status as taught by Radican and to have attached the high friction pad of Juhanson to the bottom of the pallet of Oishi et al. and Endo et al. in order to provide a non-skid surface to the bottom of the container (i.e. pallet) as taught by Juhanson.

Claims 56 and 63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oishi et al. in view of Endo et al. and in further view of Perez et al.

In regard to claim 56, Oishi et al. and Endo et al. teach the pallet as discussed above. Oishi et al. and Endo et al. fail to teach that the composition further comprises a photoactivatable catalyst selected from the group consisting of an onium salt photoinitiator and a cationic organometallic complex salt. Perez et al., however, disclose a polymer network that is applied to a storage vessel (col. 3, lines 24-25) comprising a thermally cured epoxy resin and a fully prepolymerized hydrocarbon polyolefin (col. 3, lines 8-12). Perez et al. disclose that the epoxy resin is cured by a photoactivatable cationic catalyst (col. 3, lines 13-17 and col. 23, lines 40-42). Perez et al. teach that the photoactivatable cationic catalyst is an onium salt photoinitiator or a cationic organometallic complex salt (col. 23, lines 43-47). Therefore, one of ordinary skill in the art would have recognized to have used the onium salt photoinitiator or a cationic organometallic complex salt of Perez et al. as the curing agent of the epoxy resin of the pallet of Oishi et al. and Endo et al. since an onium salt photoinitiator and a cationic organometallic complex salt are notoriously well known curing agents for epoxy resin as taught by Perez et al.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the onium salt photoinitiator or a cationic organometallic complex salt of Perez et al. as the curing agent of the epoxy resin of the pallet of Oishi et al. and Endo et al. since

Art Unit: 1772

an onium salt photoinitiator and a cationic organometallic complex salt are notoriously well known curing agents for epoxy resin as taught by Perez et al.

In regard to claim 63, Oishi et al. teach a plastic article (i.e. a part or component of transportation equipment or a container, col. 69, lines 1-3) comprising a composition comprising a blend of a polyolefin resin and a thermosetting resin (col. 29, lines 3-6 and 13-14) and a diguanamine flame retardant that is a non-halogenated flame retardant where all of the resins are free of halogen (col. 19, lines 1-5 and 10-11) and where all of the flame retardant(s) (i.e. the diguanamine flame retardant) are selected only from the group consisting of non-halogenated flame retardants as claimed. Oishi et al. teach that the polyolefin resin is a fully prepolymerized uncrosslinked hydrocarbon polyolefin resin (e.g. styrene, polyethylene, polypropylene, polybutylene, poly-3-methylbutene, col. 29, lines 7-9 and 13-15), and the thermosetting resin of Oishi et al. is necessarily curable since it is a thermosetting resin.

Oishi et al. fail to explicitly teach that the plastic article (i.e. the part or component of transportation equipment or container) is a pallet, the claimed relative amounts by weight of the polyolefin and thermosetting resins and that the composition further comprises a thermal curative or a photocatalyst.

Endo et al., however, teach a resin composition comprising a flame retardant (col. 37, lines 61-64) that is formed into a container or a pallet (col. 7, lines 38-39). Therefore, since a pallet is both a part or component of transportation equipment and a container (Applicant characterizes a pallet as a container at line 14 of page 1 of Applicant's specification), one of ordinary skill in the art would have recognized to have formed the part or component of

Art Unit: 1772

transportation equipment or container of Oishi et al. in the form of a pallet since it is well known to form flame retardant containing plastic pallets as taught by Endo et al.

Perez et al., furthermore, disclose a polymer network that is applied to a storage vessel (col. 3, lines 24-25) comprising a thermally cured epoxy resin and a fully prepolymerized hydrocarbon polyolefin (col. 3, lines 8-12). Perez et al. disclose that the epoxy resin is cured by a photoactivatable cationic catalyst (a photocatalyst) (col. 3, lines 13-17 and col. 23, lines 40-42). Perez et al. teach that the photoactivatable cationic catalyst is an onium salt photoinitiator or a cationic organometallic complex salt (col. 23, lines 43-47). Therefore, one of ordinary skill in the art would have recognized to have used the onium salt photoinitiator or a cationic organometallic complex salt of Perez et al. as the curing agent of the epoxy resin of the pallet of Oishi et al. and Endo et al. since an onium salt photoinitiator and a cationic organometallic complex salt are notoriously well known curing agents for epoxy resin as taught by Perez et al.

Since Oishi et al. teach that the polyolefin resin and the thermosetting resin are blended (col. 29, lines 3-6 and 13-14), it would have been obvious to one of ordinary skill in the art at the time the invention was made to have varied the relative amounts of the polyolefin and thermosetting resins in the blend depending on the particular desired end result.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have formed the part or component of transportation equipment or container of Oishi et al. in the form of a pallet since it is well known to form flame retardant containing plastic pallets as taught by Endo et al., to have formed the container of Oishi et al. in the form of a pallet since it is well known to form flame retardant containing plastic pallets as taught by Endo et al. and to have used the onium salt photoinitiator or a cationic organometallic complex

Art Unit: 1772

salt of Perez et al. as the curing agent of the epoxy resin of the pallet of Oishi et al. and Endo et al. since an onium salt photoinitiator and a cationic organometallic complex salt are notoriously well known curing agents for epoxy resin as taught by Perez et al.

Claim 62 is rejected under 35 U.S.C. 103(a) as being unpatentable over Oishi et al. in view of Endo et al. and in further view of Ueeda et al. and in further view of Dyckman et al.

Oishi et al. teach a plastic article (i.e. a part or component of transportation equipment or a container, col. 69, lines 1-3) comprising a composition comprising a blend of a polyolefin resin and a thermosetting resin (col. 29, lines 3-6 and 13-14) and a diguanamine flame retardant that is a non-halogenated flame retardant where all of the resins are free of halogen (col. 19, lines 1-5 and 10-11) and where all of the flame retardant(s) (i.e. the diguanamine flame retardant) are selected only from the group consisting of non-halogenated flame retardants as claimed. Oishi et al. teach that the plastic article comprises an antimicrobial additive (the diguanamines having antifouling property, col. 3, lines 43-47) and that the antimicrobial additive is integrally associated with the plastic article since the antimicrobial additive is incorporated into the resin blend (col. 19, lines 1-5 and 10-11).

Oishi et al. fail to explicitly teach that the plastic article (i.e. the part or component of transportation equipment or container) is a pallet, that the antimicrobial additive is selected from the Markush group recited in claim 62 and that the antimicrobial additive is substantially insoluble in water.

Endo et al., however, teach a resin composition comprising a flame retardant (col. 37, lines 61-64) that is formed into a container or a pallet (col. 7, lines 38-39). Therefore, since a pallet is both a part or component of transportation equipment and a container (Applicant

Art Unit: 1772

characterizes a pallet as a container at line 14 of page 1 of Applicant's specification), one of ordinary skill in the art would have recognized to have formed the part or component of transportation equipment or container of Oishi et al. in the form of a pallet since it is notoriously well known to form flame retardant containing plastic pallets as taught by Endo et al.

Ueeda et al. disclose a propylene based polymer sheet that may be blended with another resin that is formed into a container or a pallet that comprises an antimicrobial agent (col. 9, lines 23-43). Ueeda et al. disclose that the antimicrobial additive is integrally associated with the container since Ueeda et al. disclose that the antimicrobial agent is blended with the resin (col. 9, lines 23-43). Therefore, one of ordinary skill in the art would have recognized to have added an antimicrobial agent to the composition of Oishi et al. such that the antimicrobial additive is integrally associated with the container since it is notoriously well known to include antimicrobial agents that are integrally associated with the container in polypropylene based polymeric blends that are formed into containers or pallets as taught by Ueeda et al.

Dyckman et al., furthermore, disclose a biocidal polymer such as an epoxy resin that is chemically combined with a biocidal, antifouling organic tin moiety (col. 1, lines 6-13, col. 3, lines 47-68 and col. 5, lines 35-38). Dyckman et al. disclose that the leaching of organometallic antifouling salts (such as organotin salts), which introduces toxic metallic compounds to water environments, is reduced by using less water-soluble homologs of the organometallic antifouling salts (col. 2, lines 8-55). The biocidal polymer that is chemically combined with a biocidal, antifouling organic tin moiety is a biocide. One of ordinary skill in the art would have recognized to have included the biocide of Dyckman et al. in the composition of Oishi et al. in order to

reduce the leaching rate of organometallic salts and to thus reduce the release of toxic metallic compounds as taught by Dyckman et al.

Furthermore, since Dyckman et al. teaches that the antifouling organic tin moiety is biocidal, Dyckman et al. establishes that antifouling agents are biocides. Therefore, one of ordinary skill in the art would have recognized that the diguanamines having antifouling property of Oishi et al. are biocides.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have formed the part or component of transportation equipment or container of Oishi et al. in the form of a pallet since it is notoriously well known to form flame retardant containing plastic pallets as taught by Endo et al., to have added an antimicrobial agent to the composition of Oishi et al. such that the antimicrobial additive is integrally associated with the container since it is notoriously well known to include antimicrobial agents that are integrally associated with the container in polypropylene based polymeric blends that are formed into containers or pallets as taught by Ueeda et al. and to have included the biocide of Dyckman et al. in the composition of Oishi et al. in order to reduce the leaching rate of organometallic salts and to thus reduce the release of toxic metallic compounds as taught by Dyckman et al.

(10) Response to Argument

Appellant's arguments presented on pages 8-15 of the Brief regarding the 35 U.S.C. 103 rejection of claims 30, 32, 34-37, 47, 50-53, 55 and 57-61 as being unpatentable over Oishi et al. in view of Endo et al. have been fully considered but are not persuasive.

Appellant argues on page 9 of the Brief that "halogenated compounds can be used to prepare the diguanamines [of Oishi]", but intermediate molecules used to make a chemical

Art Unit: 1772

composition generally do not exist in the final form of the chemical composition. A statement that certain compounds “can be used to prepare” a chemical composition taken alone generally does not specify the makeup of the final composition that is made from those intermediate compounds.

Appellant’s argument that some “resins alleged as useful thermoplastic resins in Oishi et al. are halogenated” (with citation to col. 7, line 27 and col. 8, lines 54-55 and 66-67 of Oishi et al.) does not pertain to the rejection of record because the rejection of record cites col. 29, lines 3-6 and 13-14 as the portion of Oishi et al. that teaches a blend of a polyolefin resin and a thermosetting resin. Blends of a polyolefin resin and a thermosetting resin (such as rubber) are taught by the language of col. 29, lines 1-6 of Oishi et al.: polyolefin resins are not explicitly taught until col. 29, lines 13-14, but polyolefin resins fall under the category of “thermoplastic resins” recited at col. 29, line 3.

In regard to Appellant’s arguments regarding the intended uses disclosed by Oishi for the three Invention Groups of Oishi, the diguanamines of the “Second Invention Group” of Oishi are the diguanamines discussed in columns 68 and 69 of Oishi (col. 68 and 69 are within the discussion of the “Third Invention Group” of Oishi), and in the discussion of the Second Invention of Oishi at col. 19, lines 1-5 and 10-11, Oishi explicitly teach that the diguanamines are flame-retardant, so the diguanamines discussed in columns 68 and 69 (which are the same as the diguanamines of the Second Invention Group) are necessarily flame retardant. Furthermore, the composition taught in col. 29 of Oishi is not limited to the applications listed at col. 48, lines 25-35 (col. 48, lines 34-35 states “the resin composition is not limited to such applications”). Since the resin compositions taught at col. 29 and at col. 68-69 both include the flame retardant

Art Unit: 1772

diguanamines, one of ordinary skill in the art would have recognized to have used the general composition of the Second Invention Group of Oishi to form an article taught in columns 68 and 69 of Oishi.

Endo need not teach a pallet composition of a polyolefin/thermoset blend since Endo is relied upon as evidence that the pallet structure is a well known structure to those of ordinary skill in the art of transportation equipment or of containers. Oishi's teachings of both "transportation equipments" and "containers" motivate one of ordinary skill in the art to look to Endo as proposed in the 35 U.S.C. 103 rejection of record. A pallet is a piece of transportation equipment, so pallets fall within the scope of articles taught by Oishi even though Oishi does not explicitly teach a pallet. Additionally, under Appellant's definition of "pallet", a pallet is a container (page 1, line 14 of specification), so pallets also fall within the teaching of Oishi of "containers". Endo need not teach non-halogenated resins and non-halogenated flame retardants, although Endo does disclose non-halogenated resins and non-halogenated flame retardants (col. 3, lines 12-18 and col. 7, lines 50-62) along with some halogenated resins and flame retardants, because Oishi disclose both non-halogenated resins and non-halogenated flame retardants. See rejection of claim 30 of record.

On page 10 of the Brief, Appellant emphasizes that there are "many resins listed [in Oishi]", so "there is clearly no disclosure how to select" Appellant's resins, but blends of a polyolefin resin and a thermosetting resin (such as rubber) are taught by the language of col. 29, lines 1-6 of Oishi et al.: polyolefin resins are not explicitly taught until col. 29, lines 13-14, but polyolefin resins fall under the category of "thermoplastic resins" recited at col. 29, line 3. Oishi

Art Unit: 1772

need not teach “only halogen-free flame retardants” (Brief, page 10) because Oishi disclose halogen-free flame retardants (the diguanamines of Oishi are not required to be halogen-free).

On page 11 of the Brief, Appellant argues that “it is unlikely that one of ordinary skill in the art would even think it was reasonable to substitute the Oishi et al compositions for those employed by Endo et al to make the Endo et al articles”, but the rejection of record does not propose “substitut[ing] the Oishi et al compositions for those employed by Endo et al”. The rejection of record proposes “form[ing] the part or component of transportation equipment or container of Oishi et al. in the form of a pallet”. See rejection of claim 30 of record.

Appellant’s arguments in the paragraph bridging pages 11 and 12 of the Brief have all been addressed above.

In response to Appellant’s argument on page 12 of the Brief regarding the rejection of claim 32, Appellant states that there are “many thermosetting resins disclosed in Oishi et al”, but the disclosure of epoxy is within a list of thermosetting resins at col. 29, line 57-66. It is unclear whether or not the list at col. 29, line 57-66 would be properly characterized as disclosing “many thermosetting resins”. Oishi et al. teach that epoxy is a suitable resin for the thermosetting resin of Oishi et al.

Appellant’s argument regarding claims 34 and 47 are directed to the intended use of the composition of Oishi et al. Oishi et al. teach the claimed additives, as stated in the rejection of record.

In regard to claim 35, as stated in the rejection of record, “Oishi et al. teach that the diguanamines taught by Oishi et al. have excellent antifouling property (col. 3, lines 43-45); therefore, the diguanamines taught by Oishi et al. are antifouling agents, and therefore

Art Unit: 1772

antimicrobial additives, as antifouling agents are characterized as antimicrobial additives in claim 61”.

Appellant’s argument regarding claim 37 has been addressed above in regard to claim 30.

In regard to claim 50, the first two options for the resin/s are “homopolymers” and “copolymers”. These two options cover all polymers, so Applicant’s argument that it would require undue experimentation to enable selection from the resins listed in claim 50 is unsupported. All polymers are either homopolymers or copolymers.

In regard to claim 51, Oishi et al. teach that the filler is incorporated as needed to an extent (i.e. in an amount) that does not impair the advantageous effects of the invention (col. 32, lines 51-54), an amount that overlaps with the claimed range of “more than 0 to 70 parts by weight”. A teaching of a range of 0 to 70 is not “[s]ilence”.

In regard to claim 59, Applicant defines the term “semi-interpenetrating polymer network” as “polymer networks of two or more polymers wherein at least one polymer is crosslinked and at least one polymer is uncrosslinked” at the top of page 6 of the specification; the blend of a polyolefin resin and a thermosetting resin taught by Oishi et al. is a semi-interpenetrating polymer network since the polyolefin resin is uncrosslinked and the thermosetting resin, by definition, is crosslinked.

In response to Appellant’s argument on page 15 of the Brief regarding the rejection of claim 60, Appellant states that the basis for rejection states that “the diguanamine is substantially insoluble in water as shown by the large “n” value of the ammonium polyphosphate...”: this is not stated in the rejection of record. See rejection of claim 60 of record. The language of the rejection of record indicates that the “n” value refers to the polyphosphate. The language of the

rejection of record does not suggest that the “n” value refers to the diguanamine. See rejection of claim 60 of record.

Appellant’s arguments presented on pages 16-18 of the Brief regarding the 35 U.S.C. 103 rejection of claim 33 as being unpatentable over Oishi et al. in view of Endo et al. and in further view of Perez et al. and in further view of Angell, Jr. have been fully considered but are not persuasive.

Appellant argues that the term “structural” should be construed according one particular definition of the term, but the application as originally filed does not limit the term “structural” to the definition to which Appellant refers. The definition of “structural foam” in portion of the specification to which Appellant refers is a foam that “as a plastic product has an integral skin and cellular core”, which is exactly the structure that is claimed and that is taught by the proposed combination of references.

Appellant’s arguments presented on page 18 of the Brief regarding the 35 U.S.C. 103 rejection of claim 46 as being unpatentable over Oishi et al. in view of Endo et al. and in further view of Radican have been fully considered but are not persuasive.

Radican need not teach a blend of polyolefin and thermosettings resins, because Oishi et al. teach a blend of polyolefin and thermosettings resins.

Radican, however, teaches the use of RFID tags to enable the rapid acquisition and updating of container location and status (col. 13, lines 19-22). Therefore, one of ordinary skill in the art would have recognized to have provided RFID tags to the pallet of Oishi et al. and Endo et al. in order to enable the rapid acquisition and updating of container location and status

as taught by Radican. The references are combinable because all references pertain to shipping containers.

Appellant's arguments presented on pages 18-19 of the Brief regarding the 35 U.S.C. 103 rejection of claim 64 as being unpatentable over Oishi et al. in view of Endo et al. and in further view of Juhanson have been fully considered but are not persuasive.

Appellant indicates that it is stated in the rejection of record that Juhanson teaches a pallet. The rejection of record does not state that Juhanson teaches a pallet. See rejection of claim 64 of record.

Appellant argues that the recitation "in-mold applied" is not a method limitation. The recitation "in-mold applied" is a method limitation because it is a recitation of something that is performed during the formation of the pallet. Appellant has not shown that when the friction material was applied to the pallet, in the mold or outside of the mold (after the pallet has been molded), affects the structural limitations (or any property) of the pallet. Also see paragraph 3 of the Advisory Action mailed June 20, 2006. Appellant has not shown that the condition where the friction material is in-mold applied "clearly distinguish[s]" Appellant's pallet from the prior art.

Appellant's arguments presented on page 20 of the Brief regarding the 35 U.S.C. 103 rejection of claim 46 as being unpatentable over Oishi et al. in view of Endo et al. and in further view of Radican and in further view of Juhanson have been fully considered but are not persuasive.

Oishi et al. teach that the diguanamines taught by Oishi et al. have excellent antifouling property (col. 3, lines 43-45); therefore, the diguanamines taught by Oishi et al. are antifouling

Art Unit: 1772

agents, and therefore antimicrobial additives, as antifouling agents are characterized as antimicrobial additives in claim 61.

Appellant's arguments presented on pages 20-21 of the Brief regarding the 35 U.S.C. 103 rejection of claims 56 and 63 as being unpatentable over Oishi et al. in view of Endo et al. and in further view of Perez et al. have been fully considered but are not persuasive. Appellant's arguments depend upon Appellant's arguments regarding the rejection of claim 33, which have been addressed above.

Appellant's arguments presented on page 21 of the Brief regarding the 35 U.S.C. 103 rejection of claim 62 as being unpatentable over Oishi et al. in view of Endo et al. and in further view of Ueeda et al. and in further view of Dyckman et al. have been fully considered but are not persuasive. Appellant's arguments depend upon Appellant's arguments regarding the rejection of claim 30, which have been addressed above.

Appellant's arguments presented on page 22 of the Brief regarding the 35 U.S.C. 103 rejection of claim 65 as being unpatentable over Oishi et al. in view of Endo et al. and in further view of Juhanson have been fully considered but are not persuasive. Appellant's arguments depend upon Appellant's arguments regarding the rejection of claim 64, which have been addressed above.

Art Unit: 1772

(11) Related Proceeding(s) Appendix

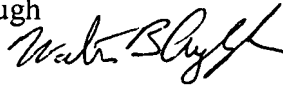
No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.


Respectfully submitted,

Walter B. Aughenbaugh

August 29, 2007



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